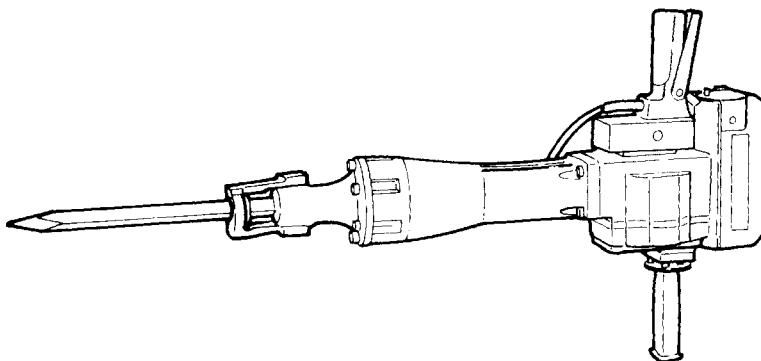


HITACHI

DEMOLITION HAMMER

MODEL H 90SB

INSTRUCTION MANUAL



Note:

Before using this Electric Power Tool, carefully read through this INSTRUCTION MANUAL to ensure efficient, safe operation. It is recommended that this MANUAL be kept readily available as an important reference when using this power tool.



DOUBLE INSULATION

We sincerely thank you for selecting a HITACHI ELECTRIC POWER TOOL. To operate this electric power tool safely and efficiently, please read this INSTRUCTION MANUAL carefully to get a good understanding of the precautions in operation, capacity of the electric power tool, use and the like.

IMPORTANT INFORMATION: SAFETY RULES FOR POWER TOOLS

WARNING: When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following.

READ ALL INSTRUCTIONS

1. KEEP WORK AREA CLEAN. Cluttered areas and benches invite injuries.

2. CONSIDER WORK AREA ENVIRONMENT.

Don't expose power tools to rain.

Don't use power tools in damp or wet locations.

Keep work area well lit.

Don't use tool in presence of flammable liquids or gases.

Power tools produce sparks during operation. They also spark when switching ON/OFF. Never use power tools in dangerous sites containing lacquer, paint, benzine, thinner, gasoline, gases, adhesive agents, and other materials which are combustible or explosive.

3. GUARD AGAINST ELECTRIC SHOCK. Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.

4. KEEP CHILDREN AWAY. Do not let visitors contact tool or extension cord.

All visitors should be kept away from work area.

5. STORE IDLE TOOLS. When not in use, tools should be stored in dry, and high or locked-up place-out of reach of children.

6. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was intended.

7. USE RIGHT TOOL. Don't force small tool or attachment to do the job of a heavy-duty tool.

Don't use tool for purpose not intended – for example – don't use circular saw for cutting tree limbs or logs.

8. DRESS PROPERLY. Do not wear loose clothing or jewelry. They can be caught in moving parts.

Rubber gloves and none-skid footwear are recommended when working outdoors.

Wear protective hair covering to contain long hair.

9. USE SAFETY GLASSES. Also use face or dust mask if cutting opera-

tion is dusty.

All persons in the area where power tools are being operated should also wear safety eye protectors and face or dust masks.

- 10. DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- 11. SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- 12. DON'T OVERREACH.** Keep proper footing and balance at all times.
- 13. MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance.
 - Follow instructions for lubricating and changing accessories.
 - Inspect tool cords periodically and if damaged, have repaired by authorized service facility.
 - Inspect extension cords periodically and replace if damaged.
 - Keep handles dry, clean, and free from oil and grease.
- 14. DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
- 15. REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- 16. AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.
- 17. OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
- 18. STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- 19. CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual.
 - Have defective switches replaced by authorized service center.
 - Do not use tool if switch does not turn it on and off.
- 20. AVOID USING A POWER TOOL FOR APPLICATIONS OTHER THAN THOSE SPECIFIED.** Never use a power tool for applications other than those specified in the instruction manual.
- 21. ENSURE SAFE OPERATION THROUGH CORRECT HANDLING.** Secure safe operation through correct handling by observing the instructions described herein.
 - Do not employ accessories other than those specified herein; otherwise, a hazardous condition may be created.

Never allow a power tool to be used by persons not familiar with correct handling (such as children) or by those who cannot handle the tool correctly.

- 22. CONFIRM THAT NO ITEMS SUCH AS AN ELECTRIC CABLE OR CONDUIT ARE BURIED INSIDE.** In places where live wiring may be hidden behind a wall, floor, ceiling, etc. do not hold or contact any metal parts of the tool. In such cases, metal parts could become electrically live and present a serious shock hazard.
- 23. KEEP THE RIGHT PARTS IN THE RIGHT POSITIONS.** Do not remove covers and screws which have been factory-mounted. They perform important respective roles. Keep them in the right positions.
- 24. SHOULD THE PLASTIC HOUSING OR HANDLE OF A POWER TOOL BE CRACKED OR DEFORMED, DO NOT USE IT.** Since cracked or deformed parts may lead to an operator receiving an electric shock, do not use such a power tool. Immediately have it repaired.
- 25. SECURELY MOUNT ACCESSORIES AND BLADES TO THE TOOL MAIN BODY.** Extra care must be taken when using tools on elevated location (such as a roof ladder, scaffold, or the like) to prevent injury to someone on a lower level in the event the tool and/or accessory should drop.
- 26. ALWAYS KEEP THE MOTOR AIR VENT FULLY OPENED.** A constantly open motor air vent is necessary to allow air to come in and out for cooling the motor. Do not allow it to become clogged up, even if dust is blown through it.
- 27. OPERATE POWER TOOLS AT THE RATED VOLTAGE.** Operate power tools at voltages specified on their nameplates.
- 28. NEVER TOUCH THE MOVING PARTS.** Never touch the moving parts such as blades, bits, cutters and others.
- 29. STOP OPERATION IMMEDIATELY IF ANY ABNORMALITY IS DETECTED.** Should a power tool be detected as out of order or should other abnormalities be observed during operation, stop using the tool immediately.
- 30. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
- 31. CAREFULLY HANDLE POWER TOOLS.** Should a power tool be dropped or struck against hard materials inadvertently, it may be deformed, cracked, or damaged.
- 32. DO NOT WIPE PLASTIC PARTS WITH SOLVENT.** Solvents such as gasoline, thinner, benzine, carbon tetrachloride, and alcohol may damage and crack plastic parts. Do not wipe them with such solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water.
- 33. WHEN REPLACING A COMPONENT PART, ADOPT THE SAME TYPE.** When replacing a component part with a new one, adopt the same type of new part. Also, never attempt to repair a power tool yourself.

SERVICE AND REPAIRS

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations should **ONLY** be performed by an AUTHORIZED HITACHI POWER TOOL REPAIR SHOP.

REPLACEMENT PARTS

When servicing use only identical replacement parts.

POLARIZED PLUGS

To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other).

This plug will fit in a polarized outlet only one way.

If the plug does not fit fully in the outlet, reverse the plug.

If it still does not fit, contact a qualified electrician to install the proper outlet.

Do not change the plug in any way.

EXTENSION CORD

Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

MINIMUM GAGE FOR CORD SETS

		Total Length of Cord in Feet (Meter)			
		0 - 25 (0 - 7.6)	26 - 50 (7.9 - 15.2)	51 - 100 (15.5 - 30.5)	101 - 150 (30.8 - 45.7)
Ampere Rating		AWG			
More	Not More				
Than	Than				
0 - 6	18	16	16	14	
6 - 10	18	16	14	12	
10 - 12	16	16	14	12	
12 - 16	14	12	Not Recommended		

DOUBLE INSULATION SYSTEM ENHANCES SAFE OPERATION

To enhance safe operation of this electric power tool, HITACHI has adopted a double insulation system. The term "double insulation" used here denotes an insulation system with two insulations physically separated and ar-

ranged between the electrically conductive material connected to the power supply and the outer frame subject to contact by the operator.

Thus, the power tool is termed double insulated and both the "□" mark and "Double insulation", or either one is indicated on the name plate.

While no external grounding is required with this system, normal safety precautions as outlined in this manual must still be followed.



To maintain the effectiveness of the double insulation system, follow the precautions described below:

1. Always contact your dealer or an authorized HITACHI service agent when assembling, disassembling or replacing parts other than accessories or carbon brushes. Improper assembly and/or replacement with wrong parts may result in eliminating the double insulation-feature.
2. Clean the exterior of the tool with a soft cloth moistened with soapy water, and dry thoroughly. Chloric solvent, gasoline, and thinner will cause plastic components to dissolve.

PRECAUTIONS ON USING DEMOLITION HAMMER

1. Wear a mask when turning your head upward.
2. Use earplugs to keep your ears noise-free while working.
3. Properly set the bit holder.
4. Since the bit becomes very hot during operation, exercise extremes very hot.
5. At the start of work, confirm screw tightening.
6. When working at a highly elevated location, pay attention to articles and persons below.
7. Wear protective shoes to protect your feet.

SAVE THESE INSTRUCTIONS

NAME OF PARTS

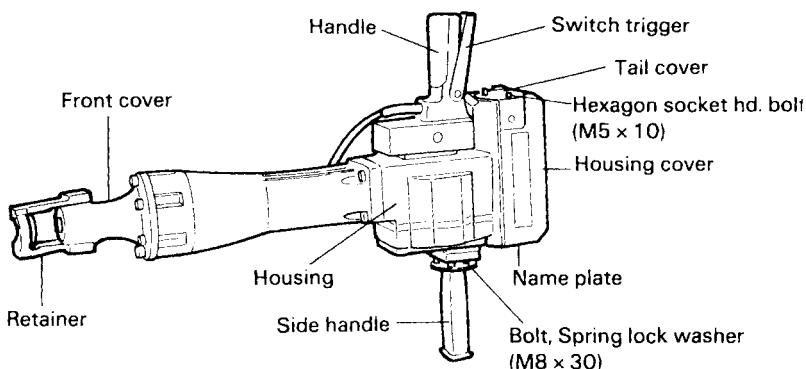


Fig. 1

NOTE:

Install the side handle with the supplied 4 bolts and 4 spring lock washers. Tighten the bolts securely with the supplied wrench.

SPECIFICATIONS

Motor	Single-phase, Series Commutator Motor
Power Source	Single-Phase 115V AC 60 Hz
Current	12.2A
Full-load Impact Rate	850/min
Weight	68.4 lbs. (31.0 kg)

ACCESSORIES

CAUTION:

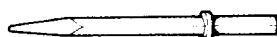
Recommended accessories for this Electric Power Tool are mentioned in this manual. The use of any other attachment or accessory might be hazardous.

STANDARD ACCESSORIES

1. Hexagon Bar Wrench 10 mm (for M12) (Code No. 993740).....	1
2. Hexagon Bar Wrench 6 mm (for M8) (Code No. 872422).....	1
3. Hexagon Bar Wrench 4 mm (for M5) (Code No. 944458).....	1
4. Side Handle (Code No. 956527).....	1
5. Bolt (Code No. 949759Z).....	4
6. Spring Lock Washer (Code No. 949457Z).....	4

OPTIONAL ACCESSORIES (sold separately)

1. Bull point



Overall length: 20-15/32" (520mm)
Code No.: 985230

2. Cold chisel



Overall length: 20-15/32" (520mm)
Code No.: 985231

3. Scoop



Overall length: 21-1/2" (546mm)
Code No.: 985233

4. Cutter



Overall length: 20-15/32" (520mm)
Width: 2-15/16" (75mm)
Code No.: 985232

APPLICATIONS

- Breaking concrete, chipping off concrete, grooving, bar cutting, and driving piles.
(Application examples)
Installation of piping and wiring, sanitary facility installation, machinery installation, water supply and drainage work, interior jobs, harbor facilities and other civil engineering work.

PRIOR TO OPERATION

1. Power source

Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.

2. Power switch

Ensure that the power switch is in the OFF position. If the plug is connected to a power receptacle while the power switch is in the ON position, the power tool will start operating immediately, inviting serious accident.

3. Extension cord

When the work area is removed from the power source, use an extension cord of sufficient thickness and rated capacity. The extension cord should be kept as short as practicable.

4. Confirming the power receptacle

If the power receptacle only loosely accepts the plug, the receptacle must be repaired. Contact the nearest electric store for repair service.

If such a faulty receptacle is used, it may cause overheating, resulting in a serious hazard.

5. Confirming condition of the environment

Confirm that the work site is placed under appropriate conditions conforming to prescribed precautions.

6. Mounting a tool

(1) With the retainer directed backward, insert the tool shank into the hole on the front cover. (Fig. 2)

(2) Swing the retainer back into place so that it engages the tool shank and prevents tool from coming all the way out of front cover. (Fig. 3)

NOTE:

Use a manual hammer to open/close the retainer.

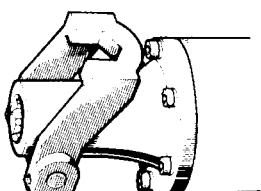


Fig. 2

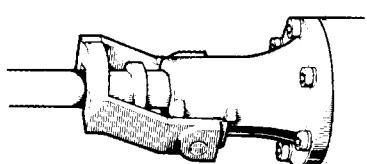


Fig. 3

NOTE:

When removing the tool, follow the above procedure in reverse order.

OPERATION

1. Pull the trigger switch after applying the tip of the bit to the crushing position.

In some cases, it is necessary to punch the tip of the bit against the crushing position forcibly in order to begin the striking stroke.

This is not due to malfunction of the tool. It means that the safe guard mechanism against no-load striking is working.

2. Operate the tool by utilizing its own weight. The performance will not be better even if the tool is pressed or thrust forcibly against the work surface.

Hold the tool with a force just sufficient to counteract the reaction.

CAUTION:

Sometimes the tool does not begin the striking stroke even when the motor rotates because the oil has become thick.

If the tool is used at low temperatures or if it is used after a long time idle, the tool should be used running in for five minutes in order to warm it up.

HOW TO REPLACE GREASE

This machine is full air-tight construction to protect against dust and to prevent lubricant leakage. Therefore, the machine can be used without lubrication for long periods. Replace the grease as described below.

Grease Replacement Period:

After purchase, replace grease after every 6 months of usage.

Ask for grease replacement at the nearest authorized HITACHI Service Agent.

MAINTENANCE AND INSPECTION

CAUTION:

Be sure to disconnect the plug during maintenance and inspection.

1. Inspecting the tool

Use of a dull tool will cause motor malfunctioning and degraded efficiently. Replace with a new one without delay when abrasion is noted.

2. Inspecting the mounting screws

Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so could result in serious hazard.

3. Inspecting the carbon brushes (Fig. 4)

The motor employs carbon brushes which are consumable parts. When they become worn to or near "wear limit", it could result in motor trouble. When an auto-stop carbon brush is equipped, the motor will stop automatically. At that time, replace both carbon brushes with new ones which have the same carbon brush Nos. shown in the figure.

In addition, always keep carbon brushes clean and ensure that they slide freely within the brush holders.

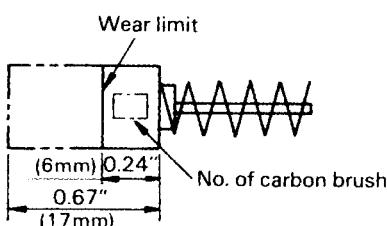


Fig. 4

	No. of carbon brush
Usual carbon brush	44
Auto-stop carbon brush	43Z

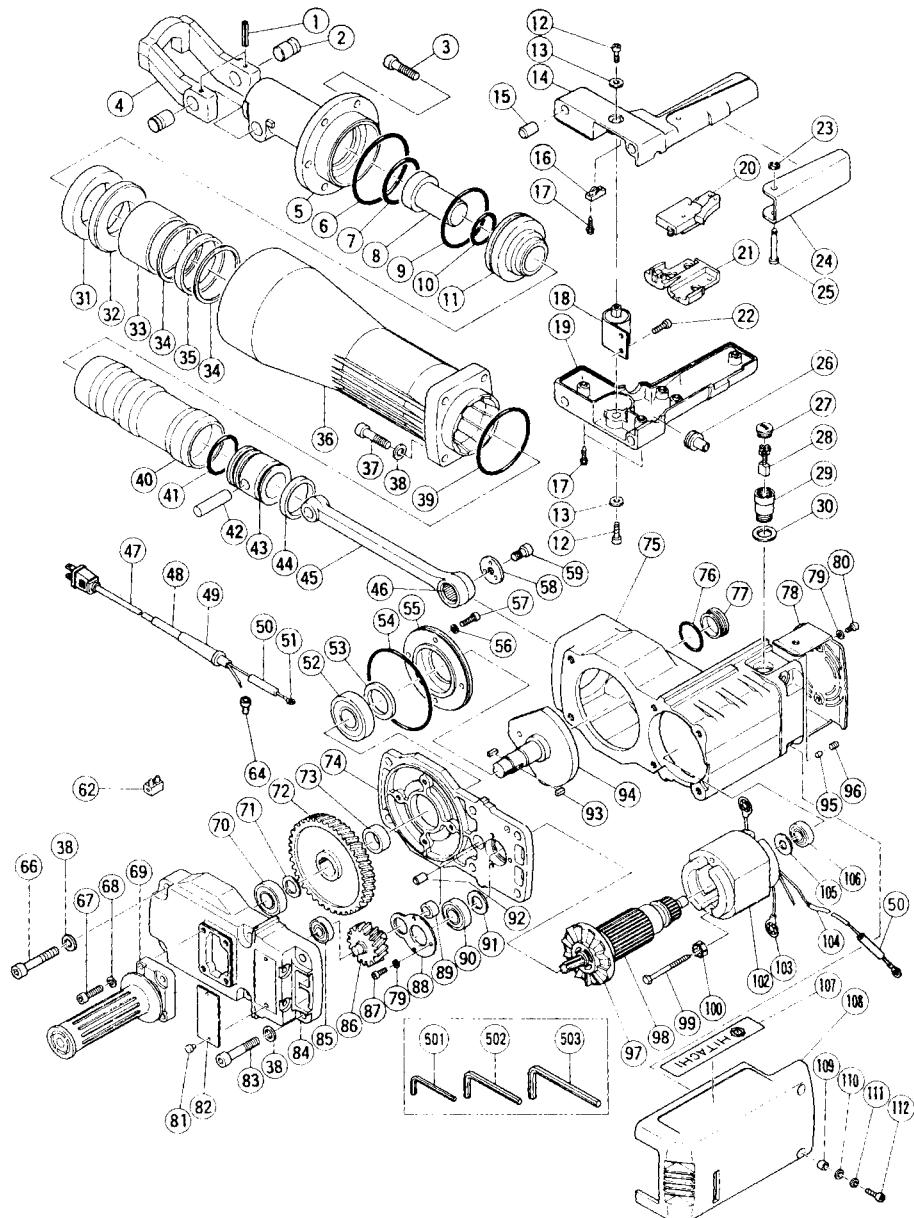
4. Replacement procedure

Loosen the screw (Hexagon socket hd. bolt M5 × 10) of the tail cover, then remove the tail cover. (Fig. 1) After removing the brush cap, the carbon brush can be removed. After replacing the carbon brush, tighten the brush cap, then mount the tail cover securely.

NOTE:

Due to HITACHI's continuing program of research and development, the specifications herein are subject to change without prior notice.

H90SB



H90SB

Item No.	Part Name
1	Roll Pin
2	Lever Pin
3	Bolt
4	Retainer
5	Front Cover
6	O-Ring (S-90)
7	O-Ring
8	Second Hammer
9	O-Ring (D)
10	O-Ring (A)
11	Hammer Holder
12	Hexagon Socket Hd. Bolt
13	Stopper Washer
14	Handle (A)
15	Rubber Leg
16	Cord Clip
17	Tapping Screw
18	Handle Rubber
19	Handle (B)
20	Switch
21	Support
22	Hexagon Socket Hd. Bolt
23	E-Type Retaining Ring
24	Switch Lever
25	Pin
26	Internal Wire Holder
27	Brush Cap
28	Carbon Brush
29	Brush Holder
30	Stop Plate
31	Damper
32	Damper Plate
33	Mouth
34	Mouth Washer
35	Urethane Ring
36	Cylinder Case
37	Bolt
38	Washer
39	O-Ring
40	Striker
41	O-Ring (B)
42	Piston Pin
43	Piston
44	Oil Seal (A)
45	Connecting Rod Ass'y
46	Needle Bearing
47	Cord
48	Tube (D)
49	Cord Armor
50	Vinyl Tube (A) (I.D. 7 x T0.5 x 50)
51	Terminal
52	Ball Bearing (6305ZZCM)
53	Oil Seal
54	O-Ring
55	Bearing Boss
56	Spring Lock Washer

Item No.	Part Name
57	Hexagon Socket Hd. Bolt
58	Crank Washer
59	Hexagon Socket Hd. Bolt
62	Pillar Terminal
64	Connector
66	Hexagon Socket Hd. Bolt
67	Hexagon Socket Hd. Bolt
68	Spring Lock Washer
69	Side Handle
70	Ball Bearing (6204VVCM)
71	Distance Washer
72	Final Gear
73	Distance Ring (B)
74	Inner Cover
75	Housing Ass'y
76	O-Ring (S-38)
77	Oil Cap
78	Tail Cover
79	Spring Lock Washer
80	Hexagon Socket Hd. Bolt
81	Rivet
82	Name Plate
83	Hexagon Socket Hd. Bolt
84	Gear Cover
85	Ball Bearing (6201VVCM)
86	Counter Gear
87	Hexagon Socket Hd. Bolt
88	Bearing Cover (A)
89	Needle Bearing (BK1312)
90	Ball Bearing (6203VVCM)
91	Bearing Washer
92	Pin
93	Feather Key
94	Crank Shaft
95	Friction Piece
96	Hexagon Socket Hd. Set Screw
97	Fan
98	Armature
99	Hexagon Hd. Tapping Screw
100	Special Washer
102	Stator
103	Brush Terminal
104	Vinyl Tube (B) (I.D. 4 x T0.4 x 80)
105	Bearing Washer
106	Ball Bearing (6201VVCM)
107	HITACHI Label
108	Housing Cover
109	Collar
110	Bolt Washer
111	Spring Lock Washer
112	Hexagon Socket Hd. Bolt
501	Hexagon Bar Wrench
502	Hexagon Bar Wrench
503	Hexagon Bar Wrench

Parts are subject to possible modification without notice due to improvements.

Hitachi Koki Co.,Ltd.

Nippon Bldg., 6-2, Ohtemachi 2-chome,

Chiyoda-Ku, Tokyo 100, Japan

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